

March 17, 2004

Mr. Jeremy Arrich
California Department of Water Resources
Division of Planning and Local Assistance
P.O. Box 942836
Sacramento, CA 94236-0001
Subject: In-Delta Storage Program Draft Feasibility Study

Dear Mr. Arrich:

Thank you for providing this opportunity for interested parties to review and comment on the Department of Water Resources' (DWR) In-Delta Storage Program draft Feasibility Study (Feasibility Study). We also want to thank Ms. Linda Adams for responding to our October 9, 2003 letter concerning the East Bay Municipal Utility District (EBMUD)/ Delta Wetlands Protest Dismissal Agreement (PDA). Her assurances were greatly appreciated.

Despite those assurances, however, we continue to be concerned that the draft Feasibility Study fails to acknowledge or explain how the project would meet the requirements of the PDA (copy attached). The PDA places operational constraints on pumping that might interfere with Mokelumne River juvenile fish migration, and requires seepage monitoring on adjacent islands and other protections against levee failures that could put EBMUD's Mokelumne Aqueducts at risk.

EBMUD-Delta Wetlands PDA

EBMUD had serious concerns with the Delta Wetlands project, forcing it to protest the project's appropriation applications before the State Water Resources Control Board (SWRCB). EBMUD's concerns focused on fishery and levee security issues caused by that project's proposed in-Delta diversion and storage operations. Those issues were ultimately addressed in the September 2000 PDA between EBMUD and Delta Wetlands.

In addition to being a feasibility study, the Department's reports serve as a disclosure document for decision makers and a reference document for future phases of project development. As such, it is very important that the reports include all relevant restrictions and conditions under which the project would be constructed and operated. Thus, DWR's In-Delta Storage Program should address how it will meet the PDA's requirements, including its operational, monitoring, and levee design requirements.

Executive Summary

Although the EBMUD PDA is mentioned in Section 7.0 of the Draft Executive Summary, it is very much mischaracterized. The summary incorrectly states that the PDA includes “a Water Quality Management Plan” (pg 10). It does not. While other PDAs focused on water quality, specifically the California Urban Water Agencies (CUWA) and Contra Costa Water District (CCWD) PDAs, EBMUD’s PDA focused on fishery and levee/seepage issues. It does not contain a water quality management plan. Further, this same paragraph goes on to erroneously state that “The terms and conditions of these PDAs have been incorporated into D1643.” That is not entirely true. While some of the terms and conditions of the EBMUD PDA were incorporated into D1643, not all were. However, the EBMUD PDA’s terms and conditions, “whether or not” included by the SWRCB, remain binding on Delta Wetlands and its successors, as expressly set forth in Section 3 of the PDA.

The EBMUD PDA contains terms and conditions that address fishery concerns, levee design concerns, and seepage control issues. These items should be mentioned in Section 7.0 of the Draft Executive Summary. Curiously, this part of the Draft Executive Summary presents information that is not found in any of the draft reports.

The EBMUD PDA should be referenced in Sections 1.1, 1.3, and 2.4 of the Draft Report on Operations, as well as in Section 3.2.3 of the Draft Summary Report. Additionally, a more accurate characterization of the EBMUD PDA should be provided in Section 7.0 of the Draft Executive Summary.

Impact on EBMUD’s Mokelumne Aqueducts

EBMUD’s Mokelumne Aqueducts convey virtually all – about 95% – of the water supplied by EBMUD to its 1.3 million customers in its East San Francisco Bay service area. Thus, in a very real sense, the Aqueducts serve as the “lifeline” for the East Bay’s residents, institutions, and economy.

Although the Aqueducts pass just south of Bacon Island, one of the project islands, the Feasibility Study reports fail to include them in its inventory of facilities on neighboring islands that would be at risk in the event of a levee failure. That is a significant omission that should be corrected in any final Feasibility Study.

Some of DWR’s own publications contain useful background information on the Aqueducts. For example, the Mokelumne Aqueducts are clearly described in DWR Bulletin 192-82:

...the East Bay Municipal Utility District has three large pipelines crossing the Delta and connecting the District’s principal sources of water in the Sierra Nevada with its distribution area in Contra Costa and Alameda counties. During the 1981 conference on the “Future of the Delta”, District representatives indicated that its concern with Delta levee vulnerability centers on the immediate effects a levee break might have on continuous operation of these three aqueducts, which cross five tracts in the Delta:

Orwood, Woodward, Jones, Roberts, and Sargent-Barnhart. Since these aqueducts rest on piles of timber and concrete, the District is concerned about the effects of a levee break on aqueduct support systems. A levee break too close to an aqueduct river crossing would likely result in extensive scour that could put all three aqueducts out of service for a year. Flooding of adjacent islands might also result in serious damage to aqueduct support systems, but with less time needed to place the system back in service.

The concerns expressed at that time by EBMUD were real, not hypothetical. As noted in EBMUD's FYR 1981 Annual Report:

The seriousness of the Delta problem was illustrated when the aqueducts were nearly submerged last October as a result of levee failure and flooding of the Upper and Lower Jones Tracts. These three large steel pipelines are below sea level for about fifteen miles as they extend across five Delta islands and tracts protected by earthen levees which hold back the Delta waters west of Stockton.

Although not damaged, two of the three pipelines were removed from service as a precaution until inspections were completed to determine the impact of the rush of water, and they were back in operation by mid-November. Eroded areas under the aqueducts were filled with sand to stabilize pipeline supports, and by December, the flooded areas had been pumped out.

In a presentation to the California Water Commission on December 12, 1980, then DWR Central District Chief Wayne MacRostie included the following description of that year's Jones Tract floods:

The break on Lower Jones Tract occurred on September 26 under normal summer conditions. The break through the railroad embankment to Upper Jones Tract occurred on October 23. Although these breaks occurred on nonproject levees, State and Federal Government agencies were called upon to advise in the flood fight and repair activities.

Despite this clear record, the Feasibility Study's Draft Report on Risk Analysis, which addresses the costs of repairing or replacing damaged levees, buildings, and infrastructure facilities on neighboring islands, fails to even mention the presence of the 65"-, 67"-, and 87"-diameter EBMUD Mokelumne Aqueducts. This oversight needs to be rectified.

Section 3.3.1 of the Report on Risk Analysis should be expanded to include a description of the EBMUD Mokelumne Aqueducts, their importance, and their vulnerability (as detailed above). Tables 5 and 6 of the Risk Analysis report should also be revised to include the Mokelumne Aqueducts and account for their economic value.

Integrating the Requirements of EBMUD's PDA

EBMUD's concerns over the intentional flooding of the project islands are that it could increase risks to the Mokelumne Aqueducts in two ways: 1) seepage beneath the levees causing flooding of adjacent islands; and 2) an outward breach of the project island's levees which could then cause the failure of an adjacent island's levee. The Feasibility Study's Draft Engineering Investigations Summary states:

The seepage analyses conducted for three cross sections taken along the Webb Tract and Bacon Island levees shows that the proposed reservoir islands may increase the water table beneath the levee at adjacent islands 2 to 3.5 feet, and that flooding may occur in the neighboring islands in the absence of a seepage control system. (Pg. 48)

The Draft Engineering Investigations Summary goes on to note:

The interceptor well concept generally appears to be able to mitigate seepage problems induced by the proposed reservoirs. Proper design, construction, and maintenance will be key to the success of the interceptor well system. (Pg. 48)

Those observations are theoretical, based on computer modeling. The only way to know whether the interceptor wells actually perform as expected is to actually monitor groundwater levels under the project islands ***and the adjacent islands***. To underscore the importance of monitoring to detect actual seepage, the last quoted sentence (from Section 5.3.8 of the Draft Engineering Investigations Summary) should be revised to say: "Proper design, construction, **monitoring**, and maintenance will be key to the success of the interceptor well system."

To ensure the seepage controls work, the EBMUD PDA contains a Seepage Control Plan (Attachment C) with very specific and detailed monitoring requirements. It also contains Geotechnical Terms and Conditions (Attachment B) with requirements for a Design and Review Board (DRB), a Monitoring and Action Board (MAB), and other safeguards. The DRB and MAB requirements of the PDA will also minimize the risk of an outward breach, as described in Section 3.3 of the Draft Risk Analysis.

Accordingly, **Section 5.3.8 of the Engineering Investigations Summary should include references to the Geotechnical Terms and Conditions (Attachment B) and Seepage Control Plan (Attachment C) of the EBMUD PDA, which will help to ensure that the seepage control measures achieve their purpose.**

The infrastructure and operation and maintenance costs required by the PDA's Seepage Control Plan (monitoring wells and automated monitoring systems) should be included in the cost analyses presented in the Draft Summary Report (Table 5.4) and the Draft Report on Economic Analyses (Table 3). It is our understanding that these costs have not yet been incorporated.

Fishery Issues

The EBMUD PDA also addresses fishery concerns. Each spring, out-migrating juvenile salmon and steelhead trout from the Mokelumne River pass by the north side of Webb Tract. To minimize entrapment or entrainment of these small fish, the EBMUD PDA contains Fisheries Terms and Conditions (Attachment A) that restrict pumping at the northeastern siphon station of Webb Tract from January 1 to June 30. Although these restrictions are significant, the Draft Report on Operations does not mention them. Section 4.4.2 of the Draft Report on Operations states "Diversions are assumed to occur on the south side of each island and discharge on the north." **As this is a requirement of the EBMUD PDA from January 1 to June 30, the PDA should be referenced and the requirement appropriately noted in Section 4.4.2.**

Conclusion

Years of study and review are behind the EBMUD PDA terms and conditions. Those provisions were carefully developed to be workable solutions to difficult issues of public importance – maintaining the water supply to the east San Francisco Bay Area while protecting the fishery – and they are *binding*. The Feasibility Study should integrate the Mokelumne Aqueducts in its facility and risk review, and should include and fully integrate the EBMUD PDA requirements, including the fishery requirements in Attachment A, and the geotechnical and seepage control requirements in Attachments B & C.

To the extent DWR assumes that changes to existing permits or agreements, including PDAs, are needed for the project to go forward, the Feasibility Study should identify and discuss the necessary modifications to specific existing permits and agreements. This full evaluation is necessary for decision makers to gain a complete understanding of the permitting and legal challenges the project may entail.

Thank you for this opportunity to comment on the reports. We look forward to working with DWR on this project in the future. Please contact Paul Gilbert-Snyder of the District's Bay-Delta Consensus Team at 510-287-0432 if you have further question or if we can be of assistance in clarifying EBMUD's recommended changes to the Feasibility Report.

Very truly yours,

Lena L. Tam
Manager of Water Resources Planning

LLT:lrc

cc: Steve Macaulay, California Urban Water Agencies
Attachment